



Missouri Department of  
**Natural Resources**



## **Drought Assessment Committee**

February 17, 2006

Bennett Spring Conference Room  
1738 E. Elm St.  
Jefferson City MO

**Attendees:** Jud Kneuvean, USACE, Larry Archer, DNR, Joe Engeln, DNR, Bob Bailey, SEMA, Steve Wilson, MDC, John Kruse, FAPRI, Judy Grundler, MDA, Steve McIntosh, DNR, Gerald Hrdina, USDA, Gene Danekas, USDA, Mark O'Malley, NOAA, Suzanne Fortin, NOAA, Randy Cole, DPS, Shane Barks, USGS, Pat Guinan, UMC, Harold Deckerd, USDA, Andy Papen, DED, Bill Price, DNR, Mike Keith, Premium Standard Farms, Tony Lupo, UMC, Gilbert Cole, MO American Water Company, Dick Weichman, EPA, Randy Maley, DHSS, Sherry Chen, DNR, Breck Summerford, DNR and Tim Rich, Congressman Hulshof's office.

Mike Wells, DAC Chairman opened the meeting by welcoming all in attendance. Mike asked everyone to introduce himself or herself and identify the agency or company they represented.

The Drought Assessment Committee (DAC) was convened last summer. Over the fall conditions improved, but we are now experiencing worsening conditions. With the coming of spring we need to look at reservoir levels, soil moisture, fire danger and other drought impacts.

John Kruse, FAPRI provided figures on the impacts of the 2005 drought. Most crop damages occurring in the northwest part of the state are now easing from the drought over the last three years. Rain from hurricane Katrina helped save the soybean crop in Illinois. Arkansas was also under a severe drought. Iowa actually had a good year. Income was up in terms of total cash receipts. The big picture across the United States showed no big increase in commodity prices because other areas had good crop years. Kansas had some impact on corn crop, little impact on hay, and above average on soybeans. Nebraska also had a good crop year.

According to district levels, corn and soybeans were down from normal, except in the Kansas City area and in northwest Missouri where they were up slightly from trend. No additional expenses due to irrigation, etc. were taken into account in reaching these figures. (Presentation follows).

# 2005 Drought Assessment

Drought Assessment Meeting

February 17, 2006

Dr. John Kruse

Email: [KruseJ@missouri.edu](mailto:KruseJ@missouri.edu)

[www.fapri.missouri.edu](http://www.fapri.missouri.edu)

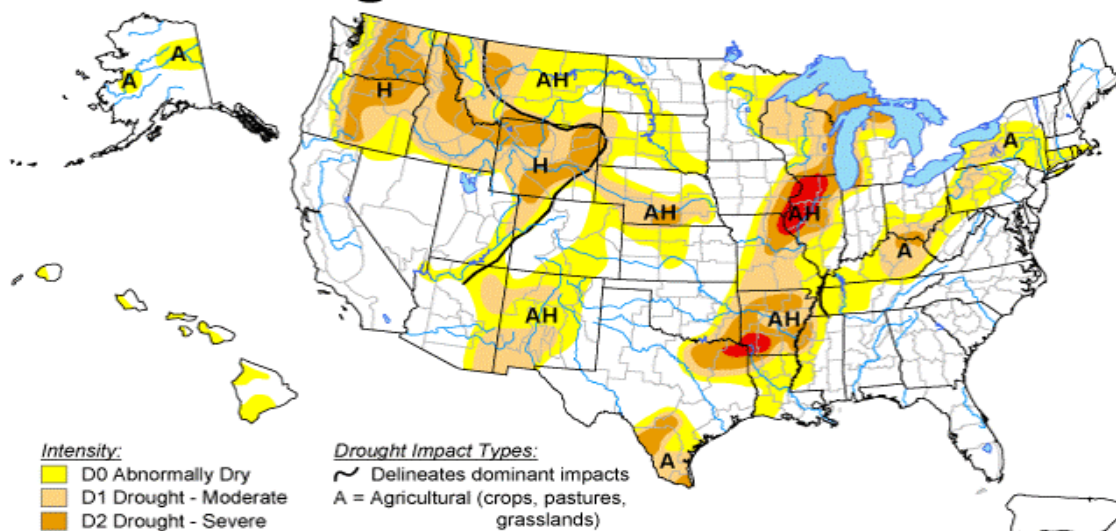
**FAPRI**  
At the University of Missouri  
Food and Agricultural  
Policy Research Institute



## U.S. Drought Monitor

August 16, 2005

Valid 8 a.m. EDT



### Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

### Drought Impact Types:

- ~ Delineates dominant impacts
- A = Agricultural (crops, pastures, grasslands)
- H = Hydrological (water)
- (No type = Both impacts)

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

<http://drought.unl.edu/dm>



Released Thursday, August 18, 2005

Author: David Miskus, JAWF/CPC/NOAA

# Value of Production Losses in 2005

Commodity	Trend Yield	USDA Semi-Final Yield	Deviation from Trend	Area Harvested	Production Effect	WASDE Jan 2006 Price	Value of Production Effect
	(unit/acre)	(unit/acre)	(unit/acre)	(1,000 acres)	(1,000 units)	(\$/unit)	(\$mil.)
<b>Missouri</b>							
Corn (bu)	133.51	111.00	-22.51	2,970	-66,854	1.90	-127.02
Soybeans (bu)	37.92	37.00	-0.92	4,960	-4,578	5.45	-24.95
Wheat (bu)	53.08	54.00	0.92	540	499	3.38	1.69
Cotton (lb)	820.52	970.00	149.48	438	65,473	0.48	31.49
Sorghum (bu)	92.26	76.00	-16.26	130	-2,114	1.70	-3.59
Rice (cwt)	61.68	66.00	4.32	214	923	7.80	7.20
Hay (ton)	2.04	1.68	-0.36	4,000	-1,437	95.23	-136.89
<b>Missouri Subtotal</b>							-252.08
<b>Illinois</b>							
Corn (bu)	158.91	143.00	-15.91	11,950	-190,114	1.90	-361.22
Soybeans (bu)	45.85	47.00	1.15	9,450	10,888	5.45	59.34
Wheat (bu)	58.06	61.00	2.94	600	1,764	3.38	5.95
Sorghum (bu)	96.86	92.00	-4.86	83	-403	1.70	-0.69
Hay (ton)	3.34	2.96	-0.38	730	-279	95.23	-26.53
<b>Illinois Subtotal</b>							-323.13

# Value of Production Losses in 2005

## Other Midwest States

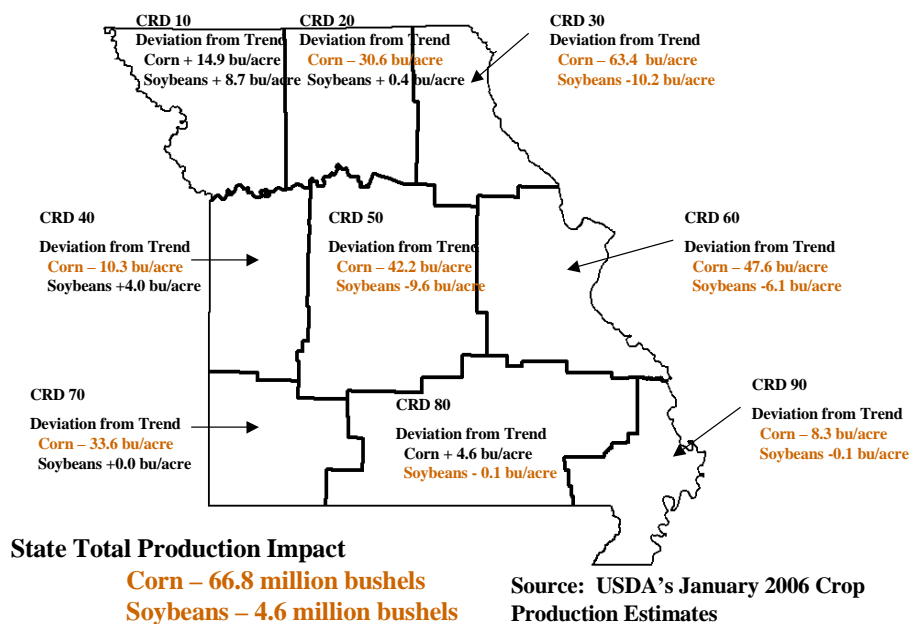
Commodity	Trend Yield	USDA Semi-Final Yield	Deviation from Trend	Area Harvested	Production Effect	WASDE Jan 2006 Price	Value of Production Effect
	(unit/acre)	(unit/acre)	(unit/acre)	(1,000 acres)	(1,000 units)	(\$/unit)	(\$mil.)
<b>Arkansas</b>							
Corn (bu)	140.42	131.00	-9.42	230	-2,167	1.90	-4.12
Soybeans (bu)	34.94	34.00	-0.94	3,000	-2,828	5.45	-15.41
Wheat (bu)	53.73	52.00	-1.73	160	-276	3.38	-0.93
Cotton (lb)	890.04	1011.00	120.96	1,040	125,799	0.48	60.51
Sorghum (bu)	79.55	80.00	0.45	62	28	1.70	0.05
Rice (cwt)	66.80	66.50	-0.30	1,635	-489	7.80	-3.82
Hay (ton)	2.31	1.71	-0.60	1,310	-788	95.23	-75.05
<b>Arkansas Subtotal</b>							-38.77
<b>Iowa</b>							
Corn (bu)	162.11	173.00	10.89	12,500	136,166	1.90	258.72
Soybeans (bu)	46.66	53.00	6.34	10,050	63,676	5.45	347.04
Hay (ton)	3.49	3.73	0.23	1,600	371	95.23	35.38
<b>Iowa Subtotal</b>							641.13

# Value of Production Losses in 2005

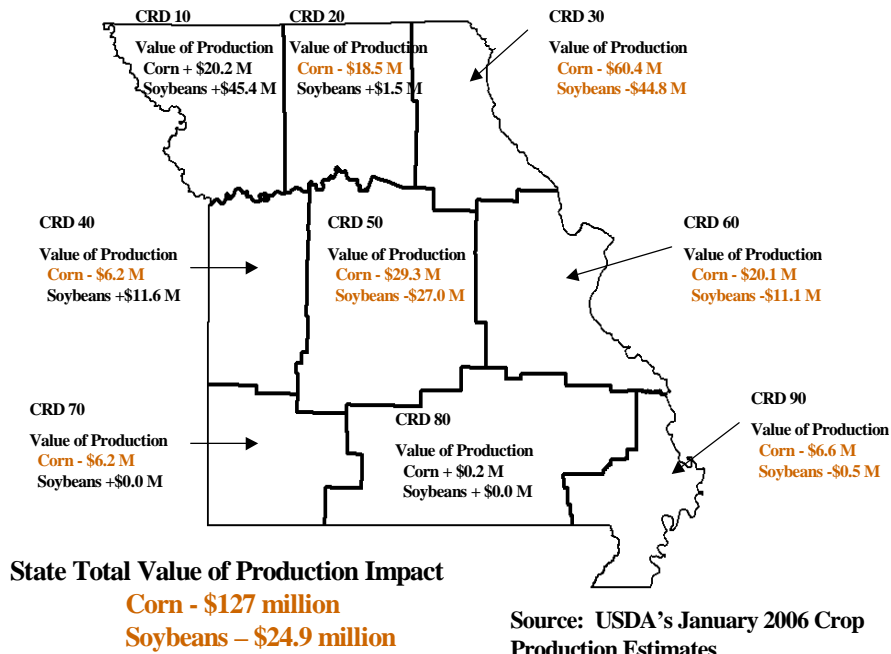
## Other Midwest States

Commodity	Trend Yield	USDA Semi-Final Yield	Deviation from Trend	Area Harvested	Production Effect	WASDE Jan 2006 Price	Value of Production Effect
	(unit/acre)	(unit/acre)	(unit/acre)	(1,000 acres)	(1,000 units)	(\$/unit)	(\$mil.)
<b>Kansas</b>							
Corn (bu)	140.31	135.00	-5.31	3,450	-18,314	1.90	-34.80
Soybeans (bu)	31.77	37.00	5.23	2,850	14,903	5.45	81.22
Wheat (bu)	40.19	40.00	-0.19	9,500	-1,784	3.38	-6.02
Cotton (lb)	460.14	655.00	194.86	66	12,861	0.48	6.19
Sorghum (bu)	66.77	75.00	8.23	2,600	21,386	1.70	36.36
Hay (ton)	2.45	2.30	-0.15	2,900	-443	95.23	-42.23
<b>Kansas Subtotal</b>							40.72
<b>Nebraska</b>							
Corn (bu)	147.74	154.00	6.26	8,250	51,620	1.90	98.08
Soybeans (bu)	44.96	50.50	5.54	4,660	25,805	5.45	140.64
Wheat (bu)	38.97	39.00	0.03	1,760	56	3.38	0.19
Sorghum (bu)	77.03	87.00	9.97	250	2,492	1.70	4.24
Hay (ton)	2.29	2.44	0.15	2,850	432	95.23	41.18
<b>Nebraska Subtotal</b>							284.32

## 2005 Missouri Drought Impacts on Yields by Crop Reporting District



## 2005 Missouri Drought Impacts on the Value of Production by Crop Reporting District



Risk management said they had paid out 63 million in corn and soybean indemnity, about 90% of final. By March 1<sup>st</sup> we will have county level yield. This information goes to the senate and house at the national level. The Governor's office is also kept informed. At one point some work was done to get some disaster assistance tied in from hurricane Katrina. Also worked with Senator Bond's office on payments from crop insurance program. Program is not meant as a money making venture, but as a risk management tool. Missouri does have one of the lowest participation rates and risk management is looking into why.

Bob Bailey, SEMA - BURN BAN INFORMATION As of February 16, 2006

Greene County—Joye McElwee, Director of Emergency Management

County attorney is looking at the legal ability of the county to establish a burn ban.

UPDATE: Greene County cannot legally pass a burn ban ordinance according to our attorney. We can include a burn ban in an ordinance by changing our zoning ordinance, but that will take months because it requires public hearings.

Webster County—William Sexton, Emergency Management Director

Webster County does not have a ban in effect.

Jasper County---Keith Stammer, Emergency Management Director Joplin/Jasper Co.

Jasper County and most cities have burn bans in place.

McDonald County—Greg Sweeten, McDonald Co. Emergency Management

McDonald County does and has had one in effect several months now; we are citing people who don't comply.

Polk County---Kermit Hargis, Polk County Emergency Management

The City of Bolivar is under a burn ban, but not Polk County.

SEMA Duty Officer Report for February 14-15, 2006:

Feb 14: Randy Cole, State Fire Marshall, reports that about 600 acres wild fires burning in the Camden/Morgan County lines and about 300 acres in Vernon County.

Chuck May, SEMA: Homes must be threatened before can request a Federal Fire Grant.

Randy Cole: Thought one abandoned mobile home in Camden/Morgan areas was threatened.

Feb. 15: Update on wildfires—Randy Cole said firefighters were still working fires in Gravois area and didn't know if homes were threatened. The Redding Mill VFD (Jasper County) was working a 300-500 acre wild fire.

City of Carthage---Dana Carver, Carthage Fire Department

The City of Carthage does have a burn ban still on. I believe the Jasper County Sheriff's Department issued a countywide burn ban also.

Jasper County---Teresa, Carl Junction Fire District

Jasper County is under a countywide burn ban.

Golden City/Barton County—

Golden City has a burn ban in place.

Cedar County---

Cedar County has a burn ban in effect and has had for several days.

#### Nixa Fire District---

The Nixa Fire District has had a burn ban for the last 3 months. They have allowed burning for a few days with the moisture, but for the most part have not allowed any burning for most of the last few months. They utilize the National Weather Service Red Flag Days to supplement their reasoning for not burning and DNR's regulations for the burning process. They are also in the middle of establishing a countywide ordinance for burning that each fire district can adopt that will include fines.

#### City of Marionville—Cindy Mooneyham

City of Marionville has a total burn ban in place, meaning not even in barrels, etc., because there has been so much wind.

#### City of Nevada—Chief Keim

City of Nevada has a burn ban in effect until further notice.

#### Vernon County—Dennis Kimrey, Vernon County Director of Emergency Management

Here in Vernon County we tried to implement a burn ban and were told by our prosecutor that we can not enforce it due to being a 3<sup>rd</sup> class county. We had a huge fire yesterday and burned off between 500 to 600 acres.

The above information does not include all the counties, but represents those that have responded.

Because of issues concerning wildland fires, legislation is being drafted based on recommendations from the State Fire Marshal's office for an executive order to enforce burn bans, even though the issue is considered to be a local issue. Fires are becoming a major situation in southwest Missouri and we do not want to experience what Texas and Oklahoma have. Some fires in the southwest Missouri area are the result of an arsonist.

The DAC is here to assist. Information on the Phases of Drought may help to inform citizens of fire hazard. See Missouri Drought Response Plan.

<http://www.dnr.mo.gov/env/wrc/WR69.pdf>

This Committee is convened to coordinate any type of drought activity and can be a mechanism for that purpose. DNR can facilitate whatever role the Committee needs to play in this issue.

The National Weather Service has received many calls asking if burn bans are in effect and there is no comprehensive site for that information to give to the public. Seems to be a disconnect as to where we can find this information.

#### Pat Guinan – UMC - Climate and Weather Perspective

We started off March of last year accumulating deficits across much of the state. Dryness exists from Michigan to southern Texas. Portions of southwest Missouri are more than 18 inches below normal since March 2005. The rest of the state is experiencing lesser deficits. The eastern Ozarks and the bootheel have received some decent rains since November.

Some stream flow conditions are very dry and at record low levels in southwest Missouri. Farm Service Agency has a network of gages indicating dryness from February 2005 to January 2006. Counties in southwest Missouri have deficits in excess of 14-20 inches below normal. There are also some isolated pockets of dryness in north central and northeastern

Missouri. Last month we did see short-term improvement in north central and northeast Missouri. Many locations in the southwestern counties have seen below normal rainfall in the last 11 months. There is some encouraging news for southwest Missouri. Spring is soon to arrive and usually April, May and June are the wettest months. Best chances for a dent in the drought come this spring according to climatology. Turnback Creek, southwest Missouri, stream flow discharge at unseasonably high levels in January of last year, below normal nearly every other month to now. Carthage seeing low groundwater levels with little recovery. Soil moisture, dryness, from Michigan all the way through Texas. Missouri lacks an actual soil moisture-monitoring network. Actual sensors out there would be a wonderful resource for Missouri.

#### Judy Grunder – MDA - Agricultural Impacts

Agricultural impacts at this time of year are primarily in the area of livestock. In southwest Missouri the major concern is getting water to the livestock. In many cases ponds have dried up. Livestock producers were not able to stockpile pastures and hay is in short supply. Pastures continue to decline in that area of the state. There are also reports of hay being stolen and producers in that area are culling some of the unnecessary cows. In the northeast region of the state recharge of ponds is a concern. Without rain, irrigating and watering from ponds won't be possible. Farmers in southeast Missouri are optimistic about the weather. They were in a serious drought during the fall but that gave them ample time to get their crops out. They had great harvest conditions and with recent rains the soil moisture has built back up. Tillage practices and grading were also done in a timely manner and ready for planting at the appropriate time. Wheat across the state went in early and is looking good but could be susceptible to impending cold temperatures.



Gerald Hrdina – USDA - Emergency Conservation Program – Drought Requests, Approvals, Cancellations, Funding.

**ECP – Drought Requests, Approvals, Cancellations, Funding – Updated 2/16/06**

<b>County</b>	<b>Date of Request to CEPD</b>	<b>Funds Requested</b>	<b>Approved or Disapproved</b>	<b>Date of Implementation</b>	<b>Amount of Funds On Hand</b>	<b>Funds Available as of 12/31/05</b>
Barry	7/28/05 2/15/06	289,000 75,000	Approved	8/9/05	352,780	20,314
Boone	8/11/05	200,000	Approved	8/16/05	CANCELLED PROGRAM – RETURNED FUNDS	0
Camden	8/11/05	100,000	Approved	8/19/05	4,625	0
Carter	8/17/05	100,000	Approved	8/24/05	CANCELLED PROGRAM – RETURNED FUNDS	0
Cedar	8/16/05 12/15/05	70,000 50,000	Approved Approved	8/22/05 12/23/05	144,890	25,110
Christian	7/29/05	175,000	Approved	8/9/05	234,490	29,555
Cole	8/03/05	50,000	Approved	8/12/05	CANCELLED PROGRAM – HAVE FUNDS IN THE AMOUNT OF 25,890	0
Cooper	7/27/05	25,000	Approved	8/9/05	CANCELLED PROGRAM – RETURNED FUNDS	0
Crawford	8/12/05	50,000	Approved	8/19/05	23,724	20,925
Dade	8/12/05 1/28/06	200,000 100,000	Approved Approved	8/19/05 2/7/06	123,560	16,925
Dallas	8/25/05 1/24/06	100,000 70,000	Approved Approved	8/26/05 2/13/06	56,780	4,587
Dent	7/21/05	70,000	Approved	8/9/05	7,650	53,496
Douglas	7/29/05	100,000	Approved	8/9/05	5,875	67,355
Greene	7/21/05 1/11/06	90,000 75,000	Approved Approved	8/9/05 2/2/06	116,615	3,176
Hickory	9/9/05	50,000	Disapproved			
Howard	8/15/05	25,000	Approved	8/19/05	CANCELLED PROGRAM – -0- FUNDS	0

**ECP – Drought Requests, Approvals, Cancellations, Funding – Updated 2/16/06**

Howell	7/25/05	100,000	Approved	7/29/05	109,633	51,097
Iron	8/2/05	100,000	Approved	8/9/05	9,702	8,320
Jasper	1/27/06	200,000	Approved	2/13/06	50,000	0
Laclede	7/29/05	70,000	Approved	8/9/05	32,032	0
Lawrence	7/29/05 2/15/06	200,000 50,000	Approved	8/9/05	213,230	24,791
Lincoln	8/19/05	30,000	Approved	8/26/05	7,257	15,277
Maries	8/15/05	50,000	Approved	8/19/05	29,332	0
Marion	8/17/05	50,000	Approved	8/24/05	20,194	0
Miller	8/03/05	50,000	Approved	8/12/05	CANCELLED PROGRAM – HAVE FUNDS IN THE AMOUNT OF 28,811	0
Moniteau	8/9/05	50,000	Approved	8/12/05	17,438	0
Monroe	8/5/05 12/15/05	95,000 35,000	Approved Approved	8/12/05 12/23/05	157,835	29,528
Montgomery	8/15/05	100,000	Approved	8/19/05	30,360	0
Morgan	7/28/05	60,000	Approved	8/9/05	CANCELLED PROGRAM – HAVE FUNDS IN THE AMOUNT OF 31,561	0
Oregon	7/27/05	75,000	Approved	8/9/05	104,922	16,764
Osage	8/15/05	90,000	Approved	8/19/05	52,623	0
Ozark	7/29/05	100,000	Approved	8/9/05	15,381	57,849
Pettis	8/12/05	100,000	Approved	8/19/05	34,814	0
Phelps	8/12/05	50,000	Approved	8/19/05	75,699	48,062
Pike	8/19/05 10/27/05	50,000 0	Approved Approved	8/26/05 11/4/05	97,680	5,477
Polk	8/22/05 1/9/06	100,000 40,000	Approved Approved	8/26/05 2/2/06	141,780	5,658
Pulaski	8/11/05	50,000	Approved	8/19/05	3,212	0
Ralls	8/2/05 12/15/06	17,500	Approved	8/9/05	13,949	470
Reynolds	7/21/05	15,000	Approved	8/9/05	4,301	6,683
Ripley	8/17/05	100,000	Approved	8/24/05	CANCELLED PROGRAM	-0-

**ECP – Drought Requests, Approvals, Cancellations, Funding – Updated 2/16/06**

St. Francois	8/2/05	100,000	Approved	8/9/05	22,009	14,014
Ste. Genevieve	8/25/05	25,000	Approved	8/26/05	39,614	9,045
Shannon	7/21/05	50,000	Approved	8/9/05	16,666	26,480
Stone	7/29/05	150,000	Approved	8/9/05	126,262	36,044
Taney	7/29/05	150,000	Approved	8/9/05	75,322	10,629
Texas	7/21/05	80,000	Approved	8/9/05	70,469	25,870
Webster	7/27/05	100,000	Approved	8/9/05	53,509	38,883
Wright	7/21/05	300,000	Approved	8/9/05	220,384	57,846
Total		4,986,500			3,002,860	2,854,523

**ECP-Tornado Requests, Approvals, Cancellations, Funding – Updated 2/16/06**

County	Date of Request to SED	Funds Requested	Approved or Disapproved	Date of Implementation	Amount of Funds On Hand	Funds Available as of 12/31/05
Dent (Administered in Phelps)	12/9/06	5,000	Approved	1/31/06	0	0
Oregon	1/19/06	100,000	Approved	1/30/06	0	0
Total		105,000			0	0

Because of the drought we are seeing less than adequate water supplies. There is assistance for transporting water to livestock. Southwest Missouri is a primary concern, along with Ralls, Pike, Monroe, and Audrain counties, including Hannibal. Southwest Missouri was part of this program last summer, discontinued for the winter, and is now seeing some counties returning. The program is usually cost shared at 50%. We have been experiencing some problems in getting the money from the national office. It could become an issue. Counties could cancel the program if sufficient rain is received or there is a lack of interest from producers. As the drought continues reliable sources of water may only include a couple of feet. Some wells may be going dry because of a drop in water tables.

**Bill Price – DNR – Water Supply Impacts**

Field staff have been checking water systems and have identified some problems in northern Missouri. Milan's lakes are down about five feet and the City is pumping steadily from Locust Creek, but is not gaining ground on lake levels. The Brookfield Lake is down about 6.5 feet, but the city is not able to pump from Yellow Creek due to inadequate flows. Bowling Green lakes are both down, one 11 feet and the other 14 feet below normal pool. In southwest Missouri, the City of Springfield is pumping from Stockton Lake to supplement city lakes, which is not uncommon for this time of year. The City of Lamar is reportedly pumping from their well to supplement the city reservoir.

All White River reservoirs are down; Stockton Lake is down 8-12 ft.

#### Gilbert Cole – MO American Water

Joplin is experiencing some well problems, but looking across the state most areas are in pretty good shape.

#### Shane Barks – USGS – Streamflow Impacts

USGS drought webpage looks at below normal stations with average 7-day flow. 70% of those stations are reading below average. Conditions are worse in southwest Missouri.

#### Steve McIntosh- DNR – Forecast and Outlook

The outlook for March is neither wetter nor dryer. March is forecast to be a little warmer in the southern part of the state. Seasonal outlook through May 2006 shows persistent drought. No improvement is predicted for the southwest. Western Missouri outlook is for the area to become dryer.

#### Suzanne Fortin - National Weather Service

Going into a La Nina pattern usually means a dryer pattern for Missouri. La Nina is predicted throughout the spring and possibly into the summer.

#### Joe Engeln – DNR - Drought Status Map

Northeast Missouri was hit worse earlier in the year last year and has seen some relief over the last few months, but has not had a full recovery in some areas. Drought in southwest Missouri actually started later in the year, but has become very intense.

### **Phases of Drought Response System**

#### **Phase 1 - Advisory Phase**

An advisory phase is normally determined by the Climate and Weather Committee (CWC) as dry conditions warrants. The committee examines precipitation, stream flow, pond and groundwater levels, Palmer drought and soil moisture indices and any other agricultural and water supply information available.

#### **Phase 2 – Drought Alert**

When the Palmer Drought Index reads -1.0 to -2.0, and stream flow, groundwater, and reservoir levels are below normal for a several month period and/or when the CWC determines Phase 2 activities are warranted the Governor will be requested by the Director of Natural Resources and other agencies such as Agriculture to make a drought alert declaration for those counties.

#### **Phase 3 – Conservation Phase is activated.**

When the Palmer Drought indices is between -2 and -4; or when the DAC determines that impacts require a Phase 3 response - when hydrologic conditions warrant and forecast indicate an extended period of below normal precipitation.

#### **Phase 4**

When the Palmer Drought Severity Index is more severe than a negative (-4) or when the DAC determines that Phase 4 activities are required.

Phase 1 - is usually more isolated with drying fields.

Phase 2 - a more definite impact is seen and some smaller water systems struggle, scattered crop impacts are seen.

Phase 3 - the DAC encourages conservation measures with deficits growing and months or longer with very dry conditions.

Phase 4 - Governor's cabinet takes control, economic impact could become very great.

In determining the Drought Status Map we do not want to understate or overstate the severity of drought in any area or county, but do want to look at possible worsening conditions in some areas. In Lewis county ponds are not recharging and the soil is powdery.

Drought Condition Status, February 17, 2006

Phase I counties: Andrew, Boone, Caldwell, Callaway, Carroll, Chariton, Clark, Cooper, Crawford, Daviess, Dekalb, Dent, Holt, Howard, Howell, Jackson, Lafayette, Lincoln, Maries, Miller, Moniteau, Montgomery, Phelps, Pulaski, Randolph, Ray, Saline, and Texas.

Phase 2 counties: Adair, Atchison, Audrain, Bates, Benton, Camden, Cass, Clark, Dallas, Douglas, Gentry, Greene, Grundy, Harrison, Henry, Hickory, Johnson, Knox, Laclede, Lewis, Linn, Livingston, Macon, Marion, Mercer, Monroe, Morgan, Nodaway, Ozark, Pettis, Pike, Polk, Putnam, Ralls, St. Clair, Schuyler, Scotland, Shelby, Sullivan, Webster, Worth, and Wright.

Phase 3 counties: Barry, Barton, Cedar, Christian, Dade, Jasper, Lawrence, McDonald, Newton, Stone, Taney, and Vernon.

The remaining Missouri counties are not experiencing drought conditions at this time.

#### Steve Wilson - MDC – Forest and Fishery Impacts

Have had over 15 fires in the last few weeks. The majority of those were in western and southwestern areas of the state. Stream levels are low. This will affect hatchery operations so we are looking at alternative sources of water.

If the drought persists, Mike Wells would also like to look at the recreational impacts in southwest Missouri. This area depends heavily on recreation and tourism, and with reservoirs levels low, and marinas out of water there may be a need to look at economic impacts due to drought in southwest Missouri. Andy Papen, Department of Economic Development, will contact the Division of Tourism to address tourism impacts.

In closing, Mr. Wells expressed that one of the reasons for today's meeting was to bring awareness back to the drought, and if conditions continue a declaration from the Governor may be sought.